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GUIDELINES

CHAPTER 9: MATERIAL SITES

9.1 CHAPTER GOALS

ADOT desires to establish a statewide network of materials sources, some of which will need to be located on National Forest and BLM lands. Each source may require environmental documentation, geotechnical investigation, and master planning in addition to analyses of accessibility, haul distances, other potential users and long- and short-term needs.

Through interagency cooperation and communication, existing and potential material source and waste sites throughout the state can be utilized efficiently and meet environmental standards.

Material sites are locations outside the highway corridor easement from which rock and soil materials may be mined and processed to serve the needs of new construction and/or maintenance activities, Figure 9.1. Material sites may also serve as repositories for excess materials, Figure 9.2, generated by new construction and/or maintenance activities. Activities associated with the development of material sources may include constructing access to and excavation of the material site as well as treatment of the excavated material such as crushing, sorting and stockpiling. Because they take place outside of the easement and on lands managed by FS or BLM, these activities require a FS or BLM permit as will be discussed below. **Excess material** is defined as solid by-products of highway

construction, reconstruction and maintenance, and of unusable materials source by-products including removed vegetation, timber, stumps and slash. The following are not considered excess materials: used cans, oils, machine and equipment parts, paint, fresh concrete, wash water from concrete operations, cement, hazardous materials, plastic and rubber products, discarded metals, building materials, etc. This unacceptable waste should be disposed of, properly, at a designated landfill or other acceptable disposal facility. BLM/FS has discretion regarding acceptable waste to be placed on BLM or National Forest land.

9.2 SCOPING

Authorization Process

Because they take place outside of the ROW, the development of materials sources requires that ADOT obtain authorization from BLM or FS. The authorization process is described at the Arizona State Mine Inspector web site, which is listed at the conclusion of this chapter. A chart from that site summarizing the main issues is shown in Appendix I. Requirements typical for the authorization process include the following:

- Preparation of a **Source Development Plan**. The purpose of the plan is to anticipate, direct and document the proper management of the source. The plan should address the following:
 - Site location and survey (which will require a licensed surveyor).
 - Estimated lifespan, estimate of volumes of usable and unusable material, basis of



Figure 9.1 Material sites located outside of the highway corridor.



Figure 9.2 Location needs to be set aside for excess materials.



Figure 9.3 Anticipated construction activities.



Figure 9.4 Excavation work.



Figure 9.5 Waste area used for water runoff.

estimate and horizontal and vertical extent of differing materials.

- Anticipated construction activities, Figure 9.3, (e.g., excavation work, Figure 9.4, batch plants, crusher, waste areas, Figure 9.5, stockpiles etc.).
- Existing features or planned activities that require special attention (e.g., visual

concerns, public safety, pollution control, blasting concerns etc.).

- Design and maintenance of long-term site access.
- End use of the site (e.g. reclamation, campground, wildlife/stock pond, day use area, helicopter pad, waste area, etc.). Site activities should be consistent with this end use design.
- The authorization process may require NEPA documentation in addition to archeological and biological clearances, 404 permits and others. The design team should anticipate that the authorization process might require months to complete (or years for projects that disturb significant natural resources).
- Where materials are removed from FS lands, a fee may be assessed.
- Material sources used for multiple projects are classified as industrial facilities for the purposes of stormwater management. Industrial facilities that discharge to Waters of the US are eligible for coverage under the federal Multi-Sector General Permit (MSGP) as adopted by ADEQ. The MSGP requires the preparation of a Stormwater Pollution Prevention Plan (SWPPP), installation of Best Management Practices, and two types of monitoring: analytical and compliance (pit dewatering only). Additional information on material source SWPPP preparation and monitoring requirements may be found in the ADOT *Material Source SWPPP Template* and the ADOT *Stormwater Monitoring Guidance Manual for Industrial Activities*. These SWPPP requirements are available from the ADOT Stormwater Program website listed at the conclusion of this chapter.

Geotechnical Investigations for Material Sources

Geotechnical investigations are usually needed to evaluate the extent, type and engineering properties of the materials encountered. They typically consist of constructing access to the proposed material source, clearing of the site, backhoe test pits and/or borings by drill rigs. Since they also take place outside of the right-of-way, geotechnical investigations for material sources require authorization from BLM/FS as described above. In order to meet the requirements of that authorization, the following information is typically included:



Figure 9.6 Location needed for drilling equipment.

- Access to the material source site:
 - Use of existing roads (if adequate to meet requirements of equipment).
 - If necessary, new road location and design (amount of cut/fill required, width, length) and type of equipment required for road construction (e.g., dozer, grader, backhoe).
 - Descriptions of existing streams or natural drainages that must be traversed and proposed drainage improvements (water bars, culverts, etc.).
 - Access road maintenance schedule.
 - Methods for controlling unauthorized access.
- Geotechnical investigation schedule.
- Possible need for phased investigations.
- Locations for drilling equipment, Figure 9.6, (typically, a 30-foot by 20-foot cleared, graded pad is constructed).
- Clearing limits and locations for topsoil salvaged from material source site.
- Methods for erosion control of disturbed sites.
- Rehabilitation of disturbed areas.

9.3 OPERATION

Material Sources

ADOT will operate source sites in accordance with the approved Source Development Plan. When unanticipated construction activities are deemed necessary or desirable, ADOT will need to amend the Development Plan in consultation with BLM/FS.

ADOT may inform its contractors of available material sources in the project contract documents. BLM/FS will typically allow access only to those material sources where ADOT has previously received authorization. Contractors may pursue authorization for other material sources on BLM/FS lands, but should be reminded that this process is lengthy and may require months to complete as discussed above.

Plan of Operations

A contractor or public agency may make application to ADOT to utilize a material source or waste site for

which an approved Source Development Plan has been developed. It will do so by preparing a Plan of Operations, which will be consistent with the goals of the Source Development Plan described above. The Plan will require BLM/FS approval and, at a minimum, will include the following information:

- Name and address of the permit holder (typically ADOT) and names of ADOT field contacts.
- Name/number of the materials source and location map and probable start/end dates. When necessary, the plan should be amended in consultation with BLM/FS to adjust these dates.
- Prepared drawings showing plan views of clearing limits, areas of excavation and elevation/section views of benches and cut faces. Note that this work will require engineered designs for which ADOT is ultimately responsible as the party authorized by BLM/FS.
- Project access, drainage design and environmental mitigation.
- Clearing limits including methods of vegetation removal and locations for salvaged topsoil.
- Type and magnitude of operations (e.g., batch plant, equipment area, stockpiles) and haul routes.
- Anticipated type(s) and volume(s) of material to be excavated; locations and methods of excavation; volume and usage of oversize material produced; blasting plans.
- SWPPP to address erosion control, storage and cleanup for fuels, oils and explosives.
- Site monitoring schedule including required SWPPP reviews.
- Reclamation/rehabilitation plan including proposed end-of-project grading plan (see below). Stockpiles, if not utilized, may require ongoing maintenance by ADOT.
- Prior to the contractor's release from an ADOT materials source, BLM/FS and ADOT will determine compliance with the terms of the authorization permit and the Source Development Plan.

Joint Use Material Sources

"Joint use" refers to use by more than one agency or party (e.g., FS, BLM, ADOT, city, county, etc.). Typically, within a joint use source, each user

has a designated area. It is recommended that each designated area be a discreet area and not immediately adjacent to another user's designated area. Each user will provide a Plan of Operations that is consistent with the Source Development Plan. BLM/FS may designate which portion of the source site is assigned for use to a specific user. Plans of Operation for joint use areas are usually developed jointly by ADOT and BLM/FS, but ADOT may be required to provide a plan for the entire site.

As described in the authorization permit, ADOT will act as the manager of the site and will assume responsibility for complying with the requirements of the permit.

Excess Material (Waste)

Waste sites are typically identified during the project planning and design process and should be described in the project contract documents. However, contractors may request additional (unplanned) waste sites. For these unplanned waste sites and other waste sites outside of the highway corridor right-of-way, the contractor or ADOT will need to apply for a permit from BLM or FS similar to that required for material sites. Other possible options for excess material disposal during construction are described in Chapter 4.

Inspections

During both the geotechnical investigation and early development of the materials site, representatives from both BLM/FS and ADOT should provide regular inspections so that adjustments can be made and undesirable consequences minimized. Once operational, it is important that sites be inspected on a regular basis in order to evaluate compliance with requirements described in the Source Development Plan and Plan(s) of Operation.

9.4 RESTORATION OF MATERIAL SOURCES AND WASTE SITES

Since they involve removal of existing vegetation and require below-grade excavation, material sources are typically susceptible to erosion. Upon completion of excavation activities, the site should be prepared for its end use as described in the Source Development Plan. Typically, this end use requires final site grading, application of stored topsoil, erosion control and restoration and

revegetation of disturbed soils. Unless needed for continued access for other reasons, access roads to the site should be ripped, drained, blocked to traffic and seeded.

9.5 ADDITIONAL RESOURCES

ADOT Stormwater Program:

http://www.azdot.gov/adot_and/storm_water/stormwater.asp

Arizona State Mine Inspector:

<http://www.asmi.state.az.us/>

GUIDELINES

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